

PENDING CLAIMS AS AMENDED

Please cancel claims 1 – 64 and add new claims 65 – 76 as follows:

Claims 1 – 64 Cancelled

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65. (New) An apparatus for a communication system, comprising:
demultiplexer for distributing transmit data symbols into a plurality streams of data symbols;
a plurality of interleavers for interleaving said plurality streams of data symbols;
shuffler for cyclically rotating output of at least one of said plurality of interleavers.
- A1 66. (New) The apparatus as recited in claim 65 further comprising:
a transmission system for Walsh covering and modulating outputs of said plurality of interleavers, excluding said least one of said plurality of interleavers, and said shuffler for transmission of said data symbols over at least a plurality of carrier frequencies.
67. (New) The apparatus as recited in claim 65 further comprising:
an encoder for encoding information data bits for producing said transmit data symbols.
68. (New) A method for a communication system, comprising:
demultiplexing transmit data symbols into a plurality streams of data symbols;
interleaving data symbols of each stream of said plurality streams of data symbols for producing plurality of a plurality of interleaved data streams;
cyclically rotating data symbols of at least one of said plurality of interleaved data streams for producing at least one stream of data symbols with cyclically rotated data symbols.

69. (New) The method as recited in claim 68 further comprising:

Walsh covering and modulating said plurality of interleaved data streams, excluding said least one of the plurality of interleaved data streams, and the least one stream of data symbols with cyclically rotated data symbols for transmission of said data symbols over at least a plurality of carrier frequencies.

70. (New) The method as recited in claim 68 further comprising:

encoding information data bits for producing said transmit data symbols.

71. (New) An apparatus for a communication system, comprising:

de-shuffler for cyclically de-rotating at least one of a plurality of streams of data symbols for producing at least one of cyclically de-rotated streams of data symbols;

a plurality of de-interleavers for de-interleaving said plurality of streams of data symbols, excluding said least one of said plurality of streams of data symbols, and said least one of cyclically de-rotated streams of data symbols for producing a plurality of de-interleaved data streams;

multiplexer for multiplexing said plurality of de-interleaved data streams for producing receive data symbols.

72. (New) The apparatus as recited in claim 71 further comprising:

a receive system for Walsh de-covering and demodulating received signals over at least a plurality of carrier frequencies for producing said plurality of streams of data symbols.

73. (New) The apparatus as recited in claim 71 further comprising:

a decoder for said receive data symbols for producing received information data.

74. (New) A method for a communication system, comprising:

cyclically de-rotating at least one of a plurality of streams of data symbols for producing at least one of cyclically de-rotated streams of data symbols;

AI de-interleaving said plurality of streams of data symbols, excluding said least one of said plurality of streams of data symbols, and said least one of cyclically de-rotated streams of data symbols for producing a plurality of de-interleaved data streams;

Multiplexing said plurality of plurality of de-interleaved data streams for producing receive data symbols.

75. (New) A method as recited in claim 74 further comprising:

CONT Walsh de-covering and demodulating received signals over at least a plurality of carrier frequencies for producing said plurality of streams of data symbols.

76. (New) A method as recited in claim 74 further comprising:

decoding said receive data symbols for producing received information data.
